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First description of male Hoogerwerf's Pheasant *Lophura (inornata) hoogerwerfi* (Chasen, 1939), with notes on distribution

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Hoogerwerf's Pheasant *Lophura hoogerwerfi* is an enigmatic taxon, probably endemic to montane Aceh, northern Sumatra, Indonesia. More than 60 years since the first female was collected, we found several of these birds at a bird market in Medan, north Sumatra. Here, we present a brief overview of knowledge of this pheasant, provide a description of the adults (including the first complete description of the male) and review the species' distribution.

The taxon is known from only two female specimens; the holotype, collected by A. Hoogerwerf, on 24 April 1937, at 1,400 m, near Lake Meluwak in the Gayo Highlands, Aceh (Chasen 1939, Chasen & Hoogerwerf 1941), and one taken in March 1939 by Dillon Ripley (Meyer de Schauensee & Ripley 1940), also in the vicinity of Lake Meluwak, at 650 m. Male *L. hoogerwerfi* has hitherto not been collected. In the 1970s regular sightings were made by N. van Strien (pers. comm. 1998), including that of a nest with two eggs in the Mamas Valley, Gunung Leuser National Park, Aceh (van Marle & Voous 1988). He obtained photographs of the pheasants, revealing them to be uniformly brown in females and bluish black in males, like those of Salvadori's Pheasant *L. inornata*, which occurs further south in Sumatra. The appropriate taxonomy of the two forms is therefore unresolved (Delacour 1977, Holmes 1989, van Balen & Holmes 1993, McGowan & Garson 1995, MacKinnon *et al.* 1998).

On 14 September 1998, during a routine check of Medan bird markets to monitor wildlife trade, RS & CRS found two female pheasants that were initially thought to be *L. inornata*. They had arrived with a consignment from Aceh, and after checking MacKinnon & Phillipps (1993) and MacKinnon *et al.* (1998) we suspected that we were dealing with *hoogerwerfi* rather than *inornata*. Both were obtained and temporarily housed in Medan Zoo. On 25 September 1998, during another visit to these markets, we found a further female and three males. These four were also obtained for the zoo but, due to the poor health and inadequate care of all six birds whilst in the market, only one female and one male survived.

Pheasants of this type were encountered at Medan bird markets on three further occasions: on 6 October 1999 (two males and two females, recently trapped in Aceh and, according to the dealers, subsequently sold to a zoo in north Sumatra); on 19 and 26 October 1999, respectively two females and five pairs, which were sent alive to Pramuka bird market, in Jakarta. During regular surveys of these markets in 1996–2004 we only encountered *hoogerwerfi* on these five occasions, and never *inornata*. The four specimens (one prepared, three frozen) were sent with inter-provincial transport permits to Java, to the Zoological Museum (MZB), at Cibinong, West Java.

Hoogerwerf was unsure the bird he collected was the female of a new species, admitting that it might be an undescribed subadult form of *inornata* (Chasen & Hoogerwerf 1941). Thus, we present a description of the female *Lophura* from Aceh, based on the three new specimens, and examination of the type-specimen in the Rijksmuseum voor Natuurlijke Historie at Leiden (MZB 11744 / RMNH 140206) and that in the Academy of Natural Sciences at Philadelphia (ANSP 139170). The uniformity of the plumage of these five specimens, and recent breeders' experiences with subadult *inornata*, confirm the assertion of Chasen & Hoogerwerf (1941) that they had collected a female 'representative of an unknown form of pheasant,' and not an undescribed plumage of male or female *inornata*, in Aceh.

Adult male

The adult male's general appearance is deep black with a blue gloss, varying from dark blue on the neck to soft greenish blue on the flanks and upperparts; head crestless; feathers of upper head, neck, breast, flanks and tail-coverts have a broad metallic blue fringe, which is sharper and brighter on the wing-coverts; throat, primaries, secondaries, rectrices, abdomen and thighs dull black with little gloss; tail short and rounded. Soft parts: iris amber (orange-brown); feet grey, seemingly slightly paler than in the female; bill pale greyish horn; orbital skin crimson-red, larger than in female, extending past the base of the bill and becoming a short protruding wattle; narrow ring around the eye bright lemon-yellow, becoming a round spot of the same colour at the posterior angle of the eye and $c. \frac{3}{4}$ of the diameter of the eye.

The total length of *hoogerwerfi* males is significantly larger than females (t-test, $P < 0.01$), whereas tarsus and gape size are also significantly larger in males (t-test, $P < 0.005$ and $P < 0.01$, respectively) (see Table 1).

Our description supports the statement that the male of *L. hoogerwerfi* is indeed 'not unlike males of the southern *L. inornata*' (Marle & Voous 1988), and indicates that males of the two forms are indistinguishable in the field. Photographs of two live specimens (male, female) were published by Sözer (1999).

TABLE 1

Measurements of all known specimens of Hoogerwerf's Pheasant *Lophura hoogerwerfi* collected in Aceh, northern Sumatra (mean±s.d.). The ANSP specimen was measured by Pamela Rasmussen, all others by RS. See text for institutional acronyms.

specimen	sex	total length (mm)	tail (mm)	wing (mm)	tarsus (mm)	bill (mm) gape/culmen	middle toe + claw (mm)	weight (g)	notes
RMNH 140206	F	-	-	206	68.0	30.0	-	50.0	- type
ANSP 139170	F	357	170	203	62.9	-	16.8	58.3	-
PKBI, Sukabumi*	F	422	146	227	61.7	31.4	29.9	55.3	- live
MZB 30359	F	395	136.3	215	65.7	31.7	24.3	51.8	- skin
MZB 30360	F	418	140.8	216	68.0	31.4	27.8	54.8	670
MZB 30361	M	510	159.0	220	79.4	32.8	23.8	57.5	-
MZB 30362	M	450	142.0	210	77.0	32.7	26.4	57.2	700
PKBI, Sukabumi*	M	518	162.0	233	77.3	33.1	28.3	56.0	- live
Mean	F	398±29.8	148±15.0	213±9.5	65±2.9	31±0.8	25±5.8	54±3.2	670
Mean	M	493±37.2	154±10.8	221±11.5	78±1.3	33±0.2	26±2.3	57±0.8	700

*PKBI is a private breeding centre in Sukabumi, West Java, Indonesia.

Adult female

Following a brief description of the type specimen by Chasen (1939), a more complete description of an adult female was given by Chasen & Hoogerwerf (1941). 'General colour brownish buff, dullest and brownest on the mantle and back, darkest on the upper and under tail coverts, brightest and tending to dark orange-buff on the breast and abdomen, and washed with rufous on the top of the head and on the wings. Chin and throat dirty white. Excluding the throat, but including the inner webs of the wing-quills and the under wing coverts, everywhere heavily vermiculated and stippled in a fairly uniform manner with black, finely on the mantle and back, more heavily on the outer edges of the primaries, and with a tendency for the markings to assume a more regular, transverse, crescentic form on the feathers of the lower breast, and to become narrowly bar-like on the crown. Tail, dull black, glossed with oily green: in some lights indistinct brown stippling can be made out on the edges of the centre tail feathers. Iris, brown; orbital skin, red; bill and feet, grey-green.' Meyer de Schauensee & Ripley (1940) stated that the specimen they collected was very uniform in colour, not showing any of the ochraceous striations either above or below described for *L. inornata*; 'It matches the description of Chasen's bird.' The collector (S. Dillon Ripley) furthermore wrote on the label 'Iris amber, feet dark blue, bill blue, skin around eye blood red.'

We judged the overall coloration of the three newly obtained females and the two earlier specimens, to be better described as a dull greyish brown. The vermiculations described above can only be distinguished when handling specimens or live birds, and are invisible at a distance. The tail is dull black, with little gloss.

The feathers, except the tail and wingtips, have a paler appearance, caused mostly by the gloss and to a lesser extent by the paler colour of the shaft region. The tail is short and held downward in live specimens, with the central rectrices longest. Soft parts are as follows: iris amber (orange-brown); feet slate to dark grey; bill greyish horn; orbital skin large and crimson-red with a lemon-yellow ring around the eye, becoming a round spot of the same colour at the posterior angle of the eye and $c.2/3$ of the diameter of the eye. This bicoloured orbital skin, with highly contrasting crimson and yellow in all freshly prepared specimens and live birds, is similar to that of *L. inornata* (Robinson & Kloss 1918), but was not described by Chasen & Hoogerwerf (1941) or Meyer de Schauensee & Ripley (1940), and is invisible in the type-specimen, presumably due to fading. The colours of the live female's feathers did not change following moults over 26 months, suggesting that all these birds were adults.

Geographic and altitudinal distribution

The specimens collected by Hoogerwerf and Ripley originated from around Lake Meluwak, near Kutacane town [Koetatjane], Gayo Highlands, Aceh, in northern Sumatra. N. van Strien observed the species in the Mammass River valley, which is *c.* 10 km west to 20 km north-west of Lake Meluwak. According to the traders, the specimens met with by us were trapped by local people *c.* 25–30 km inside the eastern boundary of Gunung Leuser National Park, in the montane area along the upper Alas River, just north of Mount Leuser, Gayo Range. The latter location is *c.* 70 km north-west of the locality of the two original specimens. Thus, all records are from the Gayo Highlands, well within the boundary of the present Gunung Leuser National Park and, for now, the species should be regarded as endemic to the Gayo range. The northernmost record of *L. inornata* is at Mt. Singgalang, West Sumatra, and the distributions of *L. inornata* and *L. hoogerwerfi* are not known to overlap.

The type-specimen was collected at 1,400 m and the other allegedly at 650 m. However, as the altitude of the latter does not match that of the type-specimen, and as S. Dillon Ripley initially wrote 3,160 ft on the label (subsequently replaced with 2,100 ft; L. Joseph pers. comm.), we are inclined to believe that the actual locality of the second specimen might be *c.* 950 m.

The observations of van Strien were at 1,200–2,000 m. The altitude where the specimens we encountered were trapped is unknown, though the consignments including these birds were said to originate from the upper Alas River, and always included lower montane Galliformes e.g. Grey-breasted Partridge *Arborophila (orientalis) rolli* and Bronze-tailed Peacock-pheasant *Polyplectron chalcurom*. Therefore, we suspect that the most probable altitudinal range of the species is 950–2,000 m, in the lower montane forest zone.

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